BTEC Assignment Brief

Qualification	Pearson BTEC International Level 3 Diploma in Agriculture Pearson BTEC International Level 3 Extended Diploma in Agriculture
Unit number and title	Unit 25: Selecting and Managing Land-based Machinery
Learning aims	**A:** Investigate factors influencing the selection and procurement of land-based machinery **B:** Produce a plan for the efficient and legal use of machinery for a land-based enterprise **C:** Calculate the costs and efficiency factors of procuring and using machinery for a land-based task
Assignment title	**Land-based machinery specification, planning and practice.**
Assessor	
Issue date	
Hand in deadline	

Vocational Scenario or Context	You have recently started working for an agricultural dealership as an agricultural maintenance technician. Your role requires you to have excellent technical understanding of the wider range of land-based machinery sold and commonly in use with the dealership's customer base. You have been tasked with producing technical machine specifications for some new equipment and carryout an assessment of several items prior to them being demonstrated in the dealership. Part of you role is also in planning and preparing technical data and costings for the use of these machines to provide the end user with clear guidance on its effectiveness.
Task 1	Learners are required to investigate and produce a written machine specification for one piece of machinery (approved by assessor), for which you must identify the machines purpose and tasks it can complete safely. Your specification should show that knowledge and understanding of work, power, torque and torque backup, their interrelationship, and how torque and power change with engine speed changes. Your specification must include; • Accurately describe the performance of an engine • Consideration of the significance of factors involved in the process of procuring a machine in a land-based context • factors involved in the decision-making process • performance requirements and procurement opportunities.
Checklist of evidence required	Machine specification and supporting notes.

Criteria covered by this task:	
Unit/Criteria reference	To achieve the criteria you must show that you are able to:
A.D1	Produce a comprehensive specification for a machine, evaluating the relative importance of factors influencing procurement
A.M2	Analyse the decision-making process involved in the procurement of a

	machine.
A.M1	Produce a complete specification for a machine for a land-based operation.
A.P1	Produce a basic specification for a machine for a land-based operation.
A.P2	Explain the decision-making process involved in the procurement of a machine.
Task 2	Learners should thoroughly investigate a field-based operation and report on its efficiency, by producing a plan for monitoring the performance and efficiency of use of a machine, including consideration of legal and operator competence, along with an evaluation of its effectiveness. Evidence of use of techniques to assess the performance of a machine and calculation of associated costs. The plan should be in the form of a written report supported by practical work, which is clear and well-structured and covers the following aspects; • Prioritising and evaluating the relevance of each efficiency measure • Justified suggestions will be given regarding ways to improve the efficiency • Use of a range of techniques to assess the performance of a machine in work. • Calculate the costs of the operation under investigation, including procurement, operating and maintenance costs.
Checklist of evidence required	A written plan, practical activities logbook and observation records.
Criteria covered by this task:	
Unit/Criteria reference	To achieve the criteria you must show that you are able to:
B.D2	Produce a comprehensive plan for monitoring the efficiency of use of a machine for a land-based operation, evaluating its effectiveness
B.M3	Justify choices made in developing a detailed plan for monitoring the efficiency of use of a machine for a land-based operation.
B.P3	Explain the significance of legal and competence requirements in monitoring the use of a machine for a land-based operation.
B.P4	Produce a basic plan for monitoring the efficiency of use of a machine for a land-based operation.
C.D3	Demonstrate highly accurate use of techniques to assess the performance of a machine in work, including calculation of costs
C.M4	Demonstrate proficient use of techniques to measure the efficiency of use of machinery in work, including calculation of costs.
C.P6	Calculate the costs associated with operating a specified machine in work.
C.P5	Demonstrate competent use of techniques to measure the performance of a specified machine for a land-based operation

Sources of information to support you with this Assignment	**Books** John, KC. (2010). *Mechanical Workshop Practice*. 2nd ed. London: Prentice-Hall of India Pvt.Ltd. Bell, B. (2016). *Farm Machinery*. 6th ed. Ipswich: Old Pond Publishing Ltd.